

**BY ORDER OF THE COMMANDER  
SPANGDAHLEM AB (USAFE)**

**SPANGDAHLEM AIR BASE INSTRUCTION  
91-212**



**1 SEPTEMBER 2015**

***Safety***

**52D FIGHTER WING BIRD/WILDLIFE  
AIRCRAFT STRIKE HAZARD (BASH) PLAN**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs*. It establishes guidance and procedures, in accordance with Air Force Instruction (AFI) 91-202, *The US Air Force Mishap Prevention Program*, AFI 91-204, *Safety Investigations and Reports*, and Air Force Pamphlet (AFPAM) 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*, to reduce the potential for bird aircraft strike hazards at Spangdahlem Air Base (SAB). This instruction applies to all organizations on SAB with a responsibility to help reduce this possibility and to increase awareness when bird activity increases. Commanders and supervisors ensure work centers will comply with this directive. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF 847, *Recommendation for Change of Publication*; route AF 847s from the field through the appropriate functional chain of command.

**SUMMARY OF CHANGES**

Changes to this publication include the deletion of the addition of the roles and responsibilities of the 726 AMS, updates of offices of responsibility, BASH countermeasures, and composition of the BASH Working Group.

## 1. General.

1.1. Daily and seasonal migratory bird movements create a bird strike hazard for operations of both the 52d Fighter Wing (FW) and the 726th Air Mobility Squadron (726 AMS). These hazards reduce the effectiveness of the flying missions through loss of valuable assets, manpower, and the repair costs they can incur. In addition, the presence of large numbers of birds may result in the periodic termination of flying operations. This instruction establishes procedures to help minimize these hazards. No single solution exists for the BASH problem; however, through a combined cooperative effort of several organizations, employing a variety of techniques, we can reduce the impact birds have on our wing. This instruction is designed to:

- 1.1.1. Establish roles and responsibilities of the personnel instrumental in implementing the plan.
- 1.1.2. Establish a Bird/Wildlife Hazard Working Group (BHWG) and designate responsibilities to its members.
- 1.1.3. Establish procedures to identify high-hazard situations.
- 1.1.4. Provide guidance to supervisors and aircrews for declaring alerts or discontinuing flying operations when required.
- 1.1.5. Maintain an effective partnership between the host wing and the 726 AMS.
- 1.1.6. Provide guidance on the employment of bird countermeasures.
- 1.1.7. Establish aircraft and airfield operating procedures to avoid hazard situations.
- 1.1.8. Provide guidance to all assigned and transient aircrews for disseminating information concerning bird hazards and avoidance procedures in conjunction with the German Bird Notice to Airmen (BIRDTAM) system.
- 1.1.9. Provide guidance on proper employment of bird and wildlife dispersion techniques.
- 1.1.10. Develop and improve techniques to decrease airfield attractiveness to birds while maintaining adherence with United Facilities Criteria 3-260-01, *Airfield and Heliport Planning and Design*.

1.2. SAB is located in the Eifel region of Germany near several waterways including the Kyll (5 miles SW) and Mosel (20 miles S) rivers, as well as Lake Echternach, Luxembourg (30 miles SW). The Kyll River valley, a major nesting area for ducks, bounds the base to the southwest. The remaining sides consist of privately owned farmland and the Wittlich forest. The forest and farmlands are major attractions for various birds during the growing season between March and November.

1.3. The 52 FW conducts flying operations all over the world, including 52OG/DET1 at Lask AB, Poland. The wing flies numerous low-level routes and utilizes several bombing ranges at these locations. For detailed descriptions of specific low-level flying areas and bombing ranges, contact 52d Operations Group (52 OG), Stan/Eval (52 OG/OGV).

## 2. Responsibilities.

- 2.1. 52 FW Commander (52 FW/CC):

- 2.1.1. Reviews recommendations from BHWG for approval/disapproval.
- 2.2. 52 FW Vice Commander (52 FW/CV):
  - 2.2.1. Establishes, implements and administers the wing BASH Program.
  - 2.2.2. Chairs the semi-annual BHWG meetings.
- 2.3. 52 FW Flight Safety Office (52 FW/SEF).
  - 2.3.1. Ensures base-wide compliance with this instruction.
  - 2.3.2. Compiles all bird/wildlife strike data, damaging and non-damaging, and inputs the data into the Air Force Safety Automated System (AFSAS) database.
  - 2.3.3. Ensures maintenance and flying squadron debrief sections and squadron Flight Safety Officers (FSOs) are utilizing the automated AF Form 853, *Air Force Bird Strike Reports*. The automated version of the form enables automatic forwarding to the 52 FW/SEF, 52 OG/OGV and 52 OG/CC organizational email boxes. This version of the form has been approved by the AF Form 853 OPR (5 Jan 2009, HAF AFSC/SEFW, LeBoeuf, Wilkens).
  - 2.3.4. Investigates BASH incidents to include collection, treatment, and shipment of bird remains to the Smithsonian Institute Feather Identification Lab for species identification. Due to Avian Influenza presence in Europe, the United States Department of Agriculture (USDA) has prescribed pre-shipping treatment guidelines that must be followed.
  - 2.3.5. Reports on BASH issues and proposes recommendations and actions to the BHWG.
  - 2.3.6. Reports bird/animal-aircraft strike information and species identification on a quarterly basis to 52 CES Asset Management Natural Resources Management Element (52 CES/CEAN) for internal tracking of threatened and endangered species involvement.
  - 2.3.7. Disseminates BASH data to the flying squadron FSOs, BHWG, Combined Safety Council, Airfield Operations Board, and flying units during Quarterly Flight Safety Meetings.
  - 2.3.8. Ensures each flying squadron maintains a current bird activity map for SAB.
  - 2.3.9. Monitors bird activity and strike statistics and advises the BHWG chairman if additional meetings are necessary.
  - 2.3.10. Establishes a bird hazard awareness program in conjunction with squadron FSOs, to include films, posters and information on local bird hazard and reporting procedures.
  - 2.3.11. Prepares the agenda for the semi-annual BHWG meeting.
  - 2.3.12. Attends all pre-construction meetings and acceptance inspections affecting the airfield.
  - 2.3.13. Provides flying squadron FSOs with deployment BASH kits and instructions for use.

#### 2.4. 52 OG/CC:

2.4.1. Through designated representatives, declares, disseminates and terminates bird-watch conditions on SAB and low fly areas.

2.4.2. Issues guidance for pilots and the Supervisor of Flying (SOF) on procedures to be followed under specific bird-watch conditions.

2.4.3. Based on the SOF's recommendations, imposes flying restrictions to avoid known high levels of bird activity. Considers the following for implementation during periods of increased bird activity:

2.4.3.1. Raise pattern altitude.

2.4.3.2. Change pattern direction.

2.4.3.3. Avoid takeoffs and landings at dawn or dusk +/- 1 hour.

2.4.3.4. Limit or restrict formation approaches, takeoffs and/or landings.

2.4.3.5. Depart pattern in trail: rejoin above 3000 feet above ground level.

2.4.3.6. Re-schedule local training or transition elsewhere.

2.4.3.7. Raise enroute altitude to low level or training areas.

2.4.3.8. Limit time in the low fly areas to a minimum for training requirements.

2.4.3.9. Restrict low-level operations in training areas based on Birdtams or other available bird hazard data.

2.4.3.10. Split formations during recovery.

2.4.3.11. Discontinue formation instrument approaches.

2.4.3.12. Make full stop landings only.

2.4.3.13. Divert aircraft to alternate airfields.

#### 2.5. Fighter Squadron Commanders:

2.5.1. Ensure deployment commander, if the squadron FSO is not deploying, appoints personnel to implement BASH avoidance measures and is equipped with a BASH deployment kit.

2.5.2. Ensure pilots participate in the BASH reduction program by promptly reporting all bird strikes and hazardous conditions IAW AFI 91-204 and this instruction.

2.5.3. Ensure current bird activity data is readily available for briefing aircrews, including current BIRDTAMS.

2.5.4. Ensure the squadron FSO is fully aware of BASH procedures and attends all BHWG meetings.

#### 2.6. 52d Operations Support Squadron (52 OSS):

2.6.1. 52 OSS, Airfield Management (52 OSS/OSAM):

2.6.1.1. Investigates reports of bird concentrations on or near the airfield.

- 2.6.1.2. Monitors environmental and bird nesting area control measures.
  - 2.6.1.3. Monitors bird populations, grass height, drainage ditches, etc., and reports problems to 52 FW/SEF and 52 CES personnel.
  - 2.6.1.4. Maintains immediate reaction capability to disperse birds and allow downgrade of a Bird Watch Condition (BWC) of SEVERE or MODERATE.
  - 2.6.1.5. Posts the current bird-watch condition on the airfield status board and disseminates the information to the Tower, Ground Control Approach (GCA), Command Post (52 FW/CP), fighter squadrons, Air Mobility Command Center (AMCC), and 52 FW/SEF.
  - 2.6.1.6. In the absence of a SOF, either the tower watch supervisor or Airfield Management personnel may determine and upgrade the bird-watch condition. In order to downgrade the bird-watch condition, the tower watch supervisor and Airfield Management personnel must concur with the downgrade recommendation.
  - 2.6.1.7. Reports observed bird activity to the SOF (if present) and the 52 FW/CP after daily flying is completed.
  - 2.6.1.8. Removes dead birds/animals from runway/taxiway areas and contacts 52 FW/SEF and 52 CES/CEAN for remains identification and disposal.
  - 2.6.1.9. Requests non-Air Mobility Command transient aircrew submit the non-automated AF Form 853, for the purpose of tracking bird activity. Non-AMC transient crews are not mandated to fill out the form and therefore may refuse.
  - 2.6.1.10. Coordinates with Reed-Joseph International for any maintenance required for Scare Wars cannon system.
- 2.6.2. 52 OSS, Tower (52 OSS/OSAT):
- 2.6.2.1. Issues advisory information on bird activity over the Automated Terminal Information System (ATIS) broadcasts.
  - 2.6.2.2. Establishes priority for runway access to 52 OSS/OSAM during bird-watch conditions SEVERE or MODERATE for placement and use of bird scare devices.
  - 2.6.2.3. Air Traffic Control agencies advise airborne aircraft of flight restrictions imposed as a result of bird activity.
  - 2.6.2.4. In the absence of a SOF, either the tower watch supervisor or Airfield Management personnel may determine and upgrade the bird-watch condition. In order to downgrade the bird-watch condition, the tower watch supervisor and Airfield Management personnel must concur with the downgrade recommendation.
  - 2.6.2.5. Determines with SOF the need for employment of bird cannons or other modes of bird dispersion. If there is no SOF in the tower, the tower watch supervisor will solely make the determination.
  - 2.6.2.6. 52 OSS, Ground Control Approach (52 OSS/OSAR) observing evidence of large flocks of birds on radar which are confirmed by an airborne aircraft, will forward this information to the SOF or 52 OSS/OSAM personnel for appropriate dissemination.

2.7. SOF, as the designated representative of the 52 OG/CC:

2.7.1. Declares BWCs and makes recommendations to the 52 OG/CC on flying restrictions based on criteria in paragraph 4 of this instruction.

2.7.2. Evaluates the hazard of an existing BWC and coordinates flying restrictions with the 52 OG/CC as required.

2.7.3. Notifies the 52 OSS/OSAM, the 52 OG/CC, and the 52 FW/CP when the airfield is under BWC SEVERE or MODERATE. The 52 FW/CP will contact 52 FW/SEF, Maintenance Operations Control Center (MOCC), AMCC, and the fighter squadrons.

2.7.4. Downgrades existing bird-watch conditions commensurate with updated information.

2.7.5. Determines with the tower watch supervisor all requests for employment of bird cannons or other modes of bird dispersion.

2.8. 726 AMS:

2.8.1. SAB is in a unique situation in which its airfield hosts not only three fighter squadrons but has also absorbed the transient cargo aircraft mission of the former Rhein-Main AB. To support this mission, the 726 AMS has become a tenant unit. Although the missions of host and tenant greatly differ, they rely on the same airfield and this mutual reliance requires a strong partnership to combat BASH issues and to implement an effective BASH plan.

2.8.2. 726 AMS Safety Office (726 AMS/SE):

2.8.2.1. Initiates AFSAS BASH reports, ships remains, and notifies owning organizations of BASH-affected transient aircraft.

2.8.2.2. Reports BASH events to 52 FW/SEF that occur or are suspected to have occurred within 30 miles of the airfield. This data is significant in maintaining an accurate picture of local BASH activity.

2.9. 52 CES:

2.9.1. 52 CES, Heavy Repair Manager (52 CES/CEOH):

2.9.1.1. Maintains airfield grass height between 7 and 14 inches (18 and 36 centimeters) and takes measures to prevent growth of weeds on airfield pavements. *Airfield* is defined as the controlled movement area on SAB.

2.9.2. 52 CES, Entomology (52 CES/CEOIE)

2.9.2.1. Manages a contracted falconry support service for clearing and chasing away resting and breeding bird species along the runway area.

2.9.2.2. Supports a host nation-approved hunting program that provides for emergency depredation in the proximity of the active runway.

2.9.2.3. Ensures base perimeter fence inhibits wildlife (fox, deer, wild boar, raccoons, cats, etc.) through inspections focused on openings underneath the fence line.

2.9.2.4. Disseminates quarterly reports to 52 FW/SEF and 52 CES/CEAN comprising of the dates, species, number and the methods of birds and other animals killed at SAB by hunting and falconry services.

2.9.3. 52 CES/CEAN:

2.9.3.1. Monitors and surveys the base for potential nesting areas. Applies for appropriate permits to actively control nest-building sites and to employ bird harassment devices.

2.9.3.2. Implements environmental control initiatives to reduce the attractiveness of the airfield to birds.

2.9.3.3. Briefs BASH environmental issues at the Wing Environmental, Safety, and Occupational Health Council meetings and advises Headquarters United States Air Forces Europe Asset Management Natural Resources Branch when applicable.

2.9.3.4. Oversees the Integrated Natural Resources Management Plan for elimination of bird breeding habitat improvements on the grass land along the runway areas.

2.10. 52d Maintenance Group (52 MXG):

2.10.1. Issue specific guidance to maintenance personnel for reporting all bird strikes to the MOCC and 52 FW/SEF.

2.10.2. Ensures Quality Assurance responds to reports of aircraft bird strikes.

2.11. 52OG/Det1:

2.11.1. Assist USAFE/SE BASH inspection of host nation program at least once every 36 months.

2.11.2. Ensure visiting unit FSOs compile all bird/wildlife strike data, damaging and non-damaging, and input the data into the Air Force Safety Automated System (AFSAS) database.

### **3. Bird/Wildlife Hazard Working Group (BHWG)**

3.1. Function. Collects, compiles and reviews data on bird strikes IAW AFI 91-204. Identifies hazards and recommends changes in operational procedures to reduce these hazards. Prepares informational programs for aircrews and serves as a point of contact for off-base BASH issues.

3.2. Authority. The BHWG is established IAW AFI 91-202 and AFMAN 91-212 and chaired by the 52 FW/CV. The BHWG submits all recommendations to the 52 FW/CC for approval.

3.3. Composition. In addition to the chairman, BHWG membership will consist of representatives from 52 FW/SEF, 52 OG/OGV, Wing Foreign Object Damage Non-Commissioned Officer, 52 CES/CEO, 52 CES/CEAN, 52 OSS/OSA, 726 AMS/SE, and the FSOs from each flying squadron.

3.4. Meeting Schedule. The BHWG will, as a minimum, meet semi-annually or when requested by the chairman.

3.5. Minutes. Meeting minutes will be accomplished by 52 FW/SEF and approved by the chairman. Once approved, the minutes will be disseminated to the BHWG membership, 52 OG/CC, and 52 MXG/QA.

#### 4. Bird Watch Conditions (BWC)

4.1. The goal of BWC is to eliminate the loss of resources due to BASH mishaps through a system of temporary restrictions and dispersion efforts. This dynamic system calls for providing the correct amount of protection to resources without stagnating flying operations.

4.2. Use the following terminology for rapid communication of bird activity and implement unit operational procedures.

4.2.1. BWC SEVERE. Wildlife activity on or immediately above the active runway or other specific location representing high potential for strikes. Supervision and aircrews must thoroughly evaluate mission need before conducting operations in areas under condition SEVERE.

4.2.2. BWC MODERATE. Wildlife activity near the active runway or other specific location representing increased potential for strikes. BWC MODERATE requires increased vigilance by all agencies and supervisors and caution by aircrews.

4.2.3. BWC LOW. Wildlife activity on and around the airfield representing low potential for strikes. BWC Low does not necessarily indicate an absence of birds but that bird activity is present but not a danger to aircraft.

**NOTE:** BWC codes are based on observations of local airfield wildlife activity and are independent of BAM or Avian Hazard Advisory System (AHAS) risk hazard levels.

**NOTE:** BWC SEVERE or MODERATE requires action from the installation's wildlife dispersal team to reduce the BWC to LOW as soon as possible.

4.2.4. Bird Activity Phases I/II. In accordance with AFI 91-202, Phase I and II are periods of bird activity based on historical information for SAB. Phase I and II designations are published in 52 FW Flight Information Publications.

4.2.4.1. BWC Low Phase II denotes heavy bird activity, normally associated with migratory season. This occurs at SAB from April-June and again during September-November. Phase II will be established by the 52 OG through the SOF during these periods. Aircrews are to remain vigilant during Phase II operations and coordinate with the SOF to adjust flying operations as required due to observed bird activity. Supervisors will receive current bird activity updates from the SOF before Aircrew step. SOFs will relay current applicable restrictions (if any) to Aircrew before takeoff. The observations and/or reporting may come from ground crew, aircrew, ATC, or SOF. Adjustments to flight operations may include, but are not limited to, cease of formation takeoffs or landings and limitations on multiple patterns.

4.2.4.2. BWC Low Phase I will denote bird activity on and around the airfield representing a low potential for strikes.

**NOTE:** BWC MODERATE and SEVERE should be in effect only while birds are physically present. Continuously monitor the bird threat so the BWC can be reduced to a lower level as soon as possible. When the birds depart the area, allow ample time (10-15 minutes) for bird



dispersal prior to lowering BWC to the appropriate level.

4.2.5. Table 1 is designed to be used as a ready reference to identify bird-watch conditions, BIRDTAM numbers and recommended action. It is to be used as a guide in determining what proactive measures are appropriate for the current bird activity level. In addition, the German BIRDTAM numbers/reports **MAY** also necessitate restrictions to USAF low altitude operations, but do **NOT** require specific action to be taken in Spangdahlem's pattern.

**Table 1. Bird Activity Identification and Recommended Action.**

| <b>Bird Activity:</b> | <b>BIRDTAM No.</b> | <b>BIRD-WATCH Directed When:</b>  | <b>Recommended Action:</b>   |
|-----------------------|--------------------|---|--|
| SEVERE                | 6 thru 8           | <p>Any number of birds on or immediately above the active runway that represents an immediate hazard to safe flying operations.</p> <p>Multiple large flocks of birds in the traffic pattern or on the infield grass.</p> <p>A flock of birds hovering on short final or continuously transiting short final.</p> <p>(SOF judgment prevails)</p>  | Discontinue flying and/or divert.  |
| MODERATE              | 3 thru 5           | <p>A single large flock of birds or multiple small flocks which are a factor to the traffic pattern, in the pattern or on the infield grass.</p> <p>When bird dispersion measures (e.g. bird cannons) must be employed more than once during a 10 minute period.</p> <p>Other concentrations of birds which create a probable hazard, but do not warrant stopping flying operations.</p> <p>(SOF judgment prevails)</p> | <p>a. restricted low approaches or full stop landings only.</p> <p>b. limit initial to 2-ship maximum.</p> <p>c. adjust overhead pattern to avoid bird activity.</p> <p>d. single ship takeoffs and landings.</p> <p>e. change runway.</p> <p>f. delay flight ops until birds are dispersed.</p> |
| LOW                   | 0 thru 2           | Scattered birds may be on the infield grass but are not a threat to aircraft.   | Pireps/SOF advisories  |

**NOTE:** The SOF has judgment authority to raise and lower the BWC and implement flying restrictions regardless of the specific numbers of birds observed.

4.3. Communications. Disseminate bird-watch conditions by the following means:

4.3.1. During flight operations, include bird-watch conditions other than LOW at SAB, low flying areas/training areas, etc. in the ATIS information. When the SOF declares bird-watch condition MODERATE or SEVERE, notify tower personnel, 52 FW/CP, flying squadrons and 52 OG/CC. The 52 FW/CP will contact 52 FW/SEF, Maintenance Operations Control Center (MOCC), AMCC, and the fighter squadrons. 52 OSS/OSAM personnel will post the bird-watch condition in the flight planning room for transient aircrews and notify changes in conditions. Squadron operations personnel will post the bird-watch condition on their Notice to Airmen (NOTAM) board.

4.3.2. The primary means of transmitting bird-watch conditions will be via ATIS. However, under bird-watch condition SEVERE (or MODERATE when restrictions have been imposed) SAB air traffic control agencies, in coordination with the SOF, will ensure pilots are advised of the condition and are provided the option to delay, divert or continue the proposed operation into hazardous areas.

**5. 52 FW Pilot Responsibilities and Procedures.**

5.1. Pilots will report all known or suspected bird strikes to their squadron FSOs and ensure an automated AF Form 853 is annotated. Pilots may also be asked to fill out the AF Form 853 for a strike unknown to them in order for investigators to have a detailed record of the flight.

5.2. Pilots observing or encountering hazardous bird activity should contact the SOF, ATC, nearest military base or range control officer and request the observed bird activity be passed on to the SOF or AM Ops. The following information should be included:

5.2.1. Call sign.

5.2.2. Location.

5.2.3. Altitude.

5.2.4. Time of sighting.

5.2.5. Type of bird (if known).

5.2.6. Approximate number of birds.

5.2.7. Behavior of birds (soaring, flying to or from a location, etc.).

5.3. Additional instructions to pilots are provided below based upon the coded bird-watch condition and location.

5.3.1. Condition SEVERE.

5.3.1.1. Traffic Pattern. Coordinate with the SOF to determine whether aircraft will be diverting or holding until the birds are dispersed. Takeoffs are prohibited.

5.3.1.2. Ranges/Training Areas. A specific area and altitude will be identified. That area will be avoided by all flights.

5.3.1.3. Low-level Areas. Note and avoid specific routes or segments and altitudes.

#### 5.3.2. Condition MODERATE.

5.3.2.1. Traffic Pattern. Only patterns authorized will be full stop landings and restricted low approaches. Takeoffs will be accomplished as single ships. Limit formations to 2-ship when flying up initial. Pilots will be particularly cognizant of bird activity when on final approach and consider initiating an immediate go-around if a bird strike appears imminent.

5.3.3. Ranges/Training Areas. Make changes in flight profile or altitudes to avoid bird hazards.

5.3.4. Low-level Areas. Make amendments to flight altitude to minimize bird hazards. Limit close formation to a minimum for mission and training requirements.

5.4. Condition LOW. (All locations) Continue with normal operating procedures.

### **6. Hazards Specific to SAB and Appropriate Countermeasures.**

6.1. The following is a summary of bird strike hazards around SAB and recommendations for reducing each hazard. A brief description of each species and how it may be controlled or avoided is included. Each control measure will require action by one or more tasked organizations as described in the basic plan. It is important to know which species is present before control techniques can be applied effectively. An appropriate field guide should be used to aid in bird identification.

6.1.1. Waterfowl (ducks, geese, swans). Migrating waterfowl are particularly dangerous to flight safety due to their numbers, size and higher flight altitude. Large flocks of waterfowl travel along traditional airways to their breeding and wintering grounds during spring and fall. Huge flocks may stop along the route awaiting favorable weather conditions. Migrating birds are most active from sunset through midnight, with numbers decreasing in the early morning hours. Avoiding night flying is the safest approach. Wintering concentration areas should be avoided.

6.1.2. Raptors (German buzzards (hawks), falcons, kites, eagles and vultures). These birds can be particularly hazardous to aircraft because of their size and widespread distribution of habitats near the base and low-level flying areas. Raptors, particularly vultures, use thermals to their advantage to search for prey. These birds become active during mid-morning and remain aloft until late afternoon. Avoid areas with thermal generating terrain such as ridgelines, rolling hills and bodies of water.

6.1.3. Cranes. These large birds are most hazardous during migrating periods, particularly in the fall when a large number of birds may be concentrated in a small area.

6.1.4. Pigeons and doves. These birds are seedeaters and are attracted to seed producing weeds, grasses and shrubs. Open areas or bare spots are attractive as resting or feeding sites.

6.1.5. Crows and ravens. These omnivorous birds are common in open areas. They may occur in large flocks, particularly at sunset as they return to their roost site.

6.1.6. Blackbirds, grackles, cowbirds, starlings, lapwings and magpies. These birds can be particularly hazardous because they frequently occur in huge flocks. Blackbirds and starlings are attracted to flat, open areas to feed, rest or stage.

6.1.7. While concern is mostly centered on birds, several mammalian species also pose a threat to flight operations.

6.1.7.1. Rabbits and hare. Can cause damage to aircraft on take-off and landing rolls; these animals also attract raptors and fox.

6.1.7.2. Rodents. Several species of rodents live on SAB and are attractants of raptors and fox.

6.1.7.3. Fox. Fox entering the airfield pose a significant hazard as they frequently cross the runway at night in search of food.

6.2. Countermeasures. There must be a concerted effort between several agencies and a pro-active approach to bird/wildlife control in order to successfully execute an effective BASH plan. Countermeasures without prior coordination can threaten air traffic as birds will take flight, therefore it is **imperative** that countermeasures be employed only with the consent of the 52 OSS/OSAT, the SOF, or 52 OSS/OSAM.

6.2.1. Airfield attractiveness. The first step in controlling airfield wildlife is to make the airfield as inhospitable as possible. This can effectively be done by maintaining the prescribed grass height, removal of dead vegetation, monitoring and leveling of low lying areas, and proper drainage. In addition, frequent inspections of the fence line for means of entry by fox or other larger animals will aid in preventing animals on the airfield.

6.2.2. Fox urine pellets. The scent of fox urine is proven to be an effective means of driving away prey such as rabbits, hare and several rodent species. Because many predatory birds hunt the same prey as fox, placing pellets on the airfield can have a positive impact towards alleviating a food source of both fox and larger birds. When the population of prey warrants, fox pellets should be utilized.

6.2.3. Bird Cannons with bioacoustics. The Scare Wars system in use by the 52 FW is a series of state of the art bird cannons, some equipped with bioacoustics. The remote-enabled system is a proven, convenient and expedient means of dispersing birds. The system is most useful when unpredictable, as birds can be conditioned to accept routine scheduled employment. The cannons are portable and should be moved to accommodate new areas of congregation and nesting. Those activating the cannons should also be aware of what mode of the system is most effective against the targeted species (e.g. cannon blast, distress cry generator, or a combination).

6.2.4. Falconry. Contracted falconry has proven to be an effective deterrent to controlling the bird and rabbit/hare population on base and remains an integral part of BASH plan. The OPR for Falconry services is 52 CES/CEOIE.

6.2.5. Pyrotechnics, bangers, screamers. These bird dispersion techniques are advantageous in their portability but due to explosive hazards must be maintained IAW AFMAN 91-201, *Explosive Safety Standards*. In addition, documented annual training must be accomplished.

6.2.6. Paintball guns. Paintball guns may be used in lieu of or in addition to other handheld dispersion devices but users must have documented annual training. The OPR is 52 OSS/OSAM.

6.2.7. Depredation. Local law forbids deliberate killing of birds on SAB without permission from the German Forest Authority (United States Fish and Wildlife equivalent). Permission is reviewed and renewed as explained in paragraph 2.9.2.2. Depredation is performed only by an appointed licensed local national hunter and only in cases of emergencies or when alternative means prove ineffective.

JOSEPH D. MCFALL, Colonel, USAF  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 91-202, *The US Air Force Mishap Prevention Program*

AFI 91-204, *Safety Investigations and Reports*

AFPAM 91-212, *Bird/wildlife Aircraft Strike Hazard (BASH) Management Techniques*

AFPD 91-2, *Safety Programs*

UFC 3-260-1, *Airfield and Heliport Planning and Design*

***Prescribed and Adopted Form***

AF Form 853, *Air Force Bird Strike Reports* (automated and non-automated)

AF Form 847, *Recommendation for Change of Publication*

***Acronyms and Abbreviations***

**AFI**—Air Force Instruction

**AFSAS**—Air Force Safety Automated System

**AMCC**—Air Mobility Control Center

**AMS**—Air Mobility Squadron

**ATC**—Air Traffic Control

**ATIS**—Automatic Terminal Information Service

**BASH**—Bird/wildlife Aircraft Strike Hazard

**BHWG**—Bird Hazard Working Group

**BIRDTAM**—Bird Notice to Airman

**BWC**—Bird Watch Condition

**CC**—Commander

**CEAN**—Asset Management Natural Resources Management Element

**CES**—Civil Engineer Squadron

**CP**—Command Post

**CV**—Vice Commander

**FSO**—Flight Safety Officer

**FW**—Fighter Wing

**IAW**—In Accordance With

**MOCC**—Maintenance Operations Control Center

**MXG**—Maintenance Group

**OG**—Operations Group

**OPR**—Office of Primary Responsibility

**OSAM**—Airfield Management

**OSS**—Operations Support Squadron

**QA**—Quality Assurance

**SEF**—Flight Safety

**SOF**—Supervisor of Flying